

90 NOV 14 PM 1:53

13 November 1990
Project 1459.05

Ms. Susan L. Hugo
Alameda County Health Agency
Department of Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

Subject: Groundwater Investigation
Kaiser Hospital Addition Site
280 W. MacArthur Boulevard
Oakland, California

Dear Ms. Hugo:

At the request of Kaiser Foundation Health Plan (Kaiser), we have modified the scope of work outlined in the recommendations contained in our Site Characterization Report, Mineral Spirits in Soil, dated 30 May 1990. The Phase I excavation of soil containing mineral spirits, which was recommended in that report, has been completed. However, at Kaiser's request, the plan for the Phase II excavation has been modified to leave the hillside soil in place. As discussed in our 4 October 1990 meeting with you, allowing the soil to remain will require obtaining a Waste Discharge Requirement (WDR) Order from the Regional Water Quality Control Board, San Francisco Bay Region (RWQCB). This letter outlines the additional scope of work to further evaluate site conditions, as required to apply for a WDR. ?

SCOPE OF WORK

The first objective of this work is to delineate the gradient and direction of shallow groundwater movement and to assess whether the groundwater downgradient of the soil proposed to be left in place has been affected by the mineral spirits in the soil. We expect that this effort will require installing four groundwater monitoring wells in the uppermost water-bearing strata. The wells will be installed under the direction of a Geomatrix geologist registered in the State of California and according to Geomatrix protocols for well design and installation. Hollow-stem auger equipment will be used to drill the borings. Below a depth of 15 feet, soil will be sampled continuously during drilling to select the appropriate screened interval. The shallow boring in the hospital basement will be sampled continuously throughout the depth of the boring. The wells will be constructed of 2-inch-

Ms. Susan L. Hugo
Alameda County Health Agency
13 November 1990
Page 2

diameter PVC casing; they are expected to be approximately 45 feet deep on the hillside, 25 feet deep at the base of the hillside, and 10 feet deep inside the hospital building. Soil cuttings generated during well installation will be stockpiled or barrelled and retained for future disposal in accordance with regulatory requirements.

Approximately two to three soil samples from each boring will be collected for laboratory analysis. BC Analytical Laboratory will analyze all samples for mineral spirits by modified EPA Method 8015.

After the grout in the wells has set, at least 48 hours after well installation, the wells will be developed according to Geomatrix protocols. The tops of the well casings will be surveyed by a surveyor licensed in the State of California.

For this phase of work, groundwater from the wells will be sampled twice and will be analyzed for mineral spirits by modified EPA Method 8015. The second sampling round, a confirmation round, will be conducted one month after the first sampling round. The first samples will be acquired according to Geomatrix protocols approximately 24-hours after development has been completed and will also be analyzed for volatile organics by EPA Method 8240 and semivolatile organics, including pentachlorophenol, by EPA Method 8270. The confirmation samples will be analyzed for mineral spirits by EPA Method 8015 only. If volatile or semivolatile organics are detected in the first groundwater sampling round, these analyses also will be repeated for the second sampling round. Based on the analytical results of these two sampling rounds, we will assess the probable impact to groundwater from the hillside soil.

The second objective of this work is to refine the assessment of the concentration of mineral spirits that remain in the hillside soil. Geomatrix will hand-drill three borings on the hillside to a depth of approximately five feet. Approximately two samples per boring and one additional near-surface sample will be analyzed for mineral spirits. The additional data will supplement data collected previously to assess the concentration of mineral spirits in the hillside soil.

The applicable Geomatrix protocols to complete this work are attached. The proposed locations for the four monitoring wells and the shallow hillside borings are shown on Figure 1.

Ms. Susan L. Hugo
Alameda County Health Agency
13 November 1990
Page 3

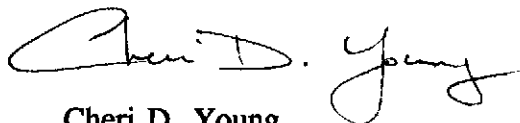
Based on these additional site characterization studies, Geomatrix will prepare a proposal for a WDR for the site. Should results of the additional characterization indicate that a WDR may not be appropriate for the site, we will present a summary report containing our conclusions and recommendations for additional remedial action alternatives.

ESTIMATED SCHEDULE

The well installations and soil sampling described above are expected to require four to six days of drilling. Work is scheduled on 7, 8, 9, 15, and 16 November 1990. The first sampling round will be completed within one to two weeks of well completion; groundwater analytical results will be available two weeks after samples are delivered to the laboratory. The second sampling round, to be performed one month after the first, is scheduled for late December 1990. The written report will be completed within three to four weeks after the second sampling round.

If you have any questions or comments regarding the proposal, please call either of the undersigned. We look forward to continuing and completing this effort on Kaiser's behalf.

Sincerely,
GEOMATRIX CONSULTANTS



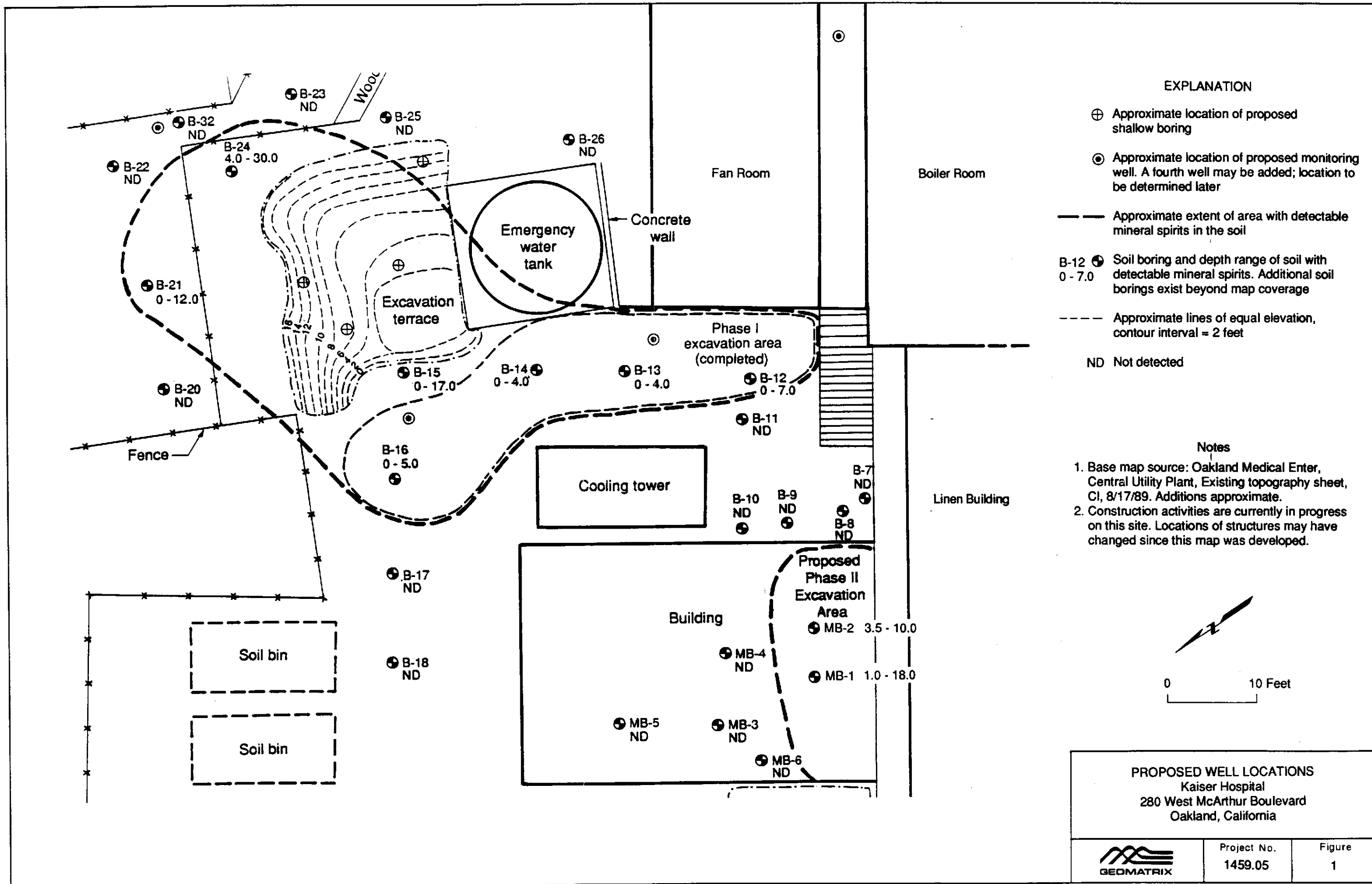
Cheri D. Young
Senior Staff Geologist



Tom Graf, P.E.
Vice President

CY/TG/dc

cc: Debra Favre, Geomatrix Consultants, Inc.

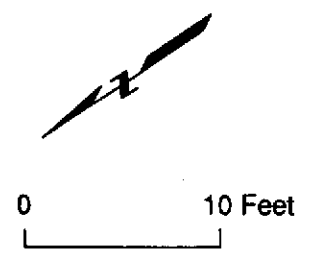



EXPLANATION

- ⊕ Approximate location of proposed shallow boring
- ⊙ Approximate location of proposed monitoring well. A fourth well may be added; location to be determined later
- Approximate extent of area with detectable mineral spirits in the soil
- B-12 ⊕ Soil boring and depth range of soil with detectable mineral spirits. Additional soil borings exist beyond map coverage
- - - Approximate lines of equal elevation, contour interval = 2 feet
- ND Not detected

Notes

1. Base map source: Oakland Medical Enter, Central Utility Plant, Existing topography sheet, CI, 8/17/89. Additions approximate.
2. Construction activities are currently in progress on this site. Locations of structures may have changed since this map was developed.



<p>PROPOSED WELL LOCATIONS Kaiser Hospital 280 West McArthur Boulevard Oakland, California</p>		
 GEOMATRIX	Project No. 1459.05	Figure 1